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VARIOUS.

FIXING TRANSPARENCIES.

Mr. Walter Rowland Holyoake, of Hayter House, Marylebone-road, has introduced improvements in fixing transparencies to lamps, windows, and other articles adapted for the passage of light. The novelty claimed by the inventor in his specification (provisional protection was not allowed), consists in the adaptation and application of an apparatus for fixing transparencies to lamps, windows, and other articles adapted for the passage of light, and for disconnecting them without damage or alteration by means of a wire bar, horizontal or otherwise, sligthly pointed at each end, with a socket screw or spring in the centre to lengthen or shorten, and with two sliding hooks attached, made of flat metal, round or half-round wire, for receiving the transparencies, which constitute the whole or part of lamps, fixed in streets, open spaces, factories, public buildings, railway carriages, tramway cars, &c., for securing the transparencies. The transparencies consist of designs upon glass or any other transparent or partially transparent material, which, when not sufficiently transparent, is treated with a solution of Canada balsam and turpentine. The transparency is next cut into the required size and shape, placed upon a clean surface and gently rubbed over with a warm solution of size, isinglass, or other glutinous and partially colourless medium, and then placed upon a perfectly clean, warm transparent piece of glass, coloured or colourless, bent or otherwise, and carefully rubbed down with a tuft of cotton wool. A second piece of colourless glass is then warmed and cleaned, and laid upon the transparency, the two surfaces being then cemented together, and bound round with japanned leather, varnished calico, or any other impervious material, to protect them from discolouration by atmospheric air or gas.

The Furniture Gazette.

A NOVELTY IN PREPARATION AT THE ALEXANDRA PALACE.

An instructive exhibition is being prepared at Muswell Hill. It is to consist of a series of models of the "characteristic dwellings" of different countries in the world, occupied by groups of living figures representing their inhabitants in the actual clothing of the country and surrounded by the ordinary furniture and domestic arrangements of the household. The idea originated with Sir Edward Lee, the chief director of the palace; and Dr. Dresser, who is carrying it into effect, has already constructed full-sized models of a modern Moorish and a modern Egyptian house. These were the subject of a private view on Saturday, and appeared to give satisfaction. This first represents the dwelling of a middle-class, or rather a superior, man in Morocco, and is an exact copy of a modern Moorish villa. The interior of the Egyptian villa is copied from an example in Cairo. The two houses have been built by Mr. Tooth, and the carpets have been supplied by Mr. Vincent Robinson.

The Builder.

A GREEK SUN-DIAL.

A curious Greek sun-dial, in a very perfect state of preservation, has been lately discovered by M. O. Rayet, at Heraclea (Latmos). It was found by him in a building which probably served for the meeting of the Senate. The sun-dial is similar in its construction to a less perfect one discovered in Phoenicia a few years ago by M. Rénan. It consists of a block of marble, cut to such a form that when suitably placed on the ground one of its faces is parallel to the plane of the equator in the latitude of Heraclea. Upon this face is the actual dial, in the form of a segment of a hollow cone having the curves which serve to mark the hours, as indicated by the passage over the dial of the shadow of a style fixed at the point where the apex of the cone is cut through by the upper horizontal surface of the block of stone. This style was the only part wanting in the dial when discovered. But the most remarkable part about this ancient dial is the presence of seven parallel arcs of circles, at such a distance apart that each of them would be traversed by the shadow of the point of the style when the sun was in the middle of one of the signs of the Zodiac. A second conical dial is placed on the northern face of the block of marble, and beneath the first or principal dial is a Greek inscription in two lines stating that the instrument was dedicated to Ptolemy the King by Apollonios, son of Apollodotes, and constructed by Themistagoras of Alexandria, son of Meniskos. M. Rayet thinks that the king here referred to is Ptolemy Philadelphos, and that its date is probably the early part of the third century B. C. Dials of this kind are mentioned by Vitruvius, but the precise mode of their construction was unknown until the discovery by M. Rénan of the fragment above referred to.

The Builder.

ARSENIC IN WALL PAPERS.

"Pro Bono Publico" writes as follows to the Manchester Guardian: — The illness of an infant led my medical attendant to investigate the probable cause of the unaccountable change from previous good health. An analysis of the wall-papers showed that in two rooms the papers contained considerable quantities of arsenic, and in the papers of four other rooms arsenic was also found. To replace the condemned papers twelve different patterns were selected and tested. Of these only four were found free from arsenic. The inpression I had that arsenic was only used in some particular shades of green, was dispelled, as it was traced in blue, buff, and other colours. The qualities of the papers were no criterion; it was found in papers varying from 3 s. 6 d. to 20 s. per piece, and the production of various makers. Some of the newest, expensive, and decorative styles proved the worst.

A CHEAP SUBSTITUTE OF A GLAZIER'S DIAMOND.

The cutting of glass with steel has been demonstrated to be possible, provided its point is ground into the form of a common glazier's diamond. But while hard steel of this form will cut glass, it is difficult to bring a steel point to the required shape, and it also soon wears out and becomes worthless until reground. Many efforts have been made to make a tool of steel that would compete at least approximately with the real diamond for this purpose. It has been discovered that a small cylindrical point of steel, when made to rotate upon glass in such a manner that its longitudinal axis shall make an angle of 45 deg. with the surface of the glass, approaches in effect so nearly to that of the real diamond that it is a very cheap and effective substitute.

The Engineer.

ANCIENT LANTERNS.

Lanterns of horn were used by both Greeks and Romans; they put lamps into them for the purpose of lighting themselves home on moonless nights. In England Alfred the Great made lanterns to guard his graduated candles from the wind. Guy Faux's lantern still exists in the Bodleian Library. At Oxford, also, we believe there is still to be seen a highly ornamented specimen of a lantern of brass, about 10in. high and 5in. in diameter. It has a small door on one side. Light was emitted through five rows of holes, in each of which is set a piece of fine crystal. On the top is a large piece or knob of crystal, through which a handle, now broken off, was fixed to the cone.

The Engineer.